

FICHA TÉCNICA – TECHNICAL DATA SHEET: MFR

VENTAJAS – BENEFITS

Taco multiuso homologado CE, tanto para estructuras con perfiles de madera como estructuras metálicas – **CE approved plug used for structures in Wood channels or metallic structures.**

Adecuado para materiales huecos: ladrillo, bloque celular,... – **Suitable for hollow materials: perforated bricks, sand-lime bricks,...**

Amplia zona de expansión estriada con cuádruple apertura patentada para garantizar una mayor Resistencia a la extracción - **The long expanding area and patented expansion system with bar son four sides ensure secure hold in all substrates.**

Taco con valona: Previene la corrosión entre el tornillo y la pieza a fijar – **The rimmed version saves and additional plastic washer and prevents formation of contact corrosion.**

Rápido de instalar gracias a necesitar menor profundidad de anclaje de 70 mm (50mm en medida Ø8) – **Easy to handle owing to small anchorage depth of 70 mm (50mm for Ø8) in all materials with all product lengths.**

Anclaje premontado para simplificar la instalación – **Pre-mounted screws simplify handling and ensure greater convenience when installing.**

APLICACIONES – APPLICATIONS.

Fachadas ventiladas de madera o metálicas / **Facade substructures of Wood and metal.**

Fijación aplacados en fachada / **Stone fixing in facade**

Premarcos / **Door frames**

Puertas contraincendios / **Fire doors**

Estructuras de cubiertas / **Roof structures**

Fijación de mobiliario urbano / **Urban furniture**

Fijación de aire acondicionado / **Air conditioning machines**

Foto Producto / Product photo



Homologaciones Approvals



Ø8 / Ø10 / Ø14



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TDS-1

CARACTERÍSTICAS – FEATURES

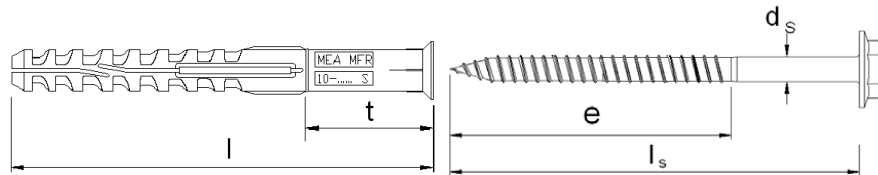
Material / Material

- Tornillo: acero calidad 6.8 / **Screw: steel quality 6.8.**
- Taco: Poliamida PA6 (nylon) / **Plug: Polyamide PA6 (nylon)**




Baño: Zincado y galvanizado en caliente / **Coating: Zinc plated and hot dip galvanized**
 Acero inoxidable A4 - **A4 Stainless steel**

Dimensiones – Main dimensions



MFR SB TX Cincado / Zinc-Plated

Cabeza tornillo avellanada + taco avellanado / **Countersunk screw + countersunk plug**

Cincado Zinc- Plated							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Esesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR8	MFR-SB-TX 860	Ø8x60	8	60	Ø6x65	10	TX30
	MFR-SB-TX 880	Ø8x80	8	60	Ø6x85	30	TX30
	MFR-SB-TX 8100	Ø8x100	8	60	Ø6x105	50	TX30
	MFR-SB-TX 8120	Ø8x120	8	60	Ø6x125	70	TX30
MFR 10	MFR-SB-TX 1080	Ø10x80	10	80	Ø7x87	10	TX40
	MFR-SB-TX 10100	Ø10x100	10	80	Ø7x107	30	TX40
	MFR-SB-TX 10115	Ø10x115	10	80	Ø7x122	45	TX40
	MFR-SB-TX 10135	Ø10x135	10	80	Ø7x142	65	TX40
	MFR-SB-TX 10160	Ø10x160	10	80	Ø7x167	90	TX40
	MFR-SB-TX 10200	Ø10x200	10	80	Ø7x207	130	TX40
	MFR-SB-TX 10240	Ø10x240	10	80	Ø7x247	170	TX40
MFR 14	MFR-SB-TX 1480	Ø14x80	14	80	Ø10x90	10	TX50
	MFR-SB-TX 14110	Ø14x110	14	80	Ø10x120	40	TX50
	MFR-SB-TX 14140	Ø14x140	14	80	Ø10x150	70	TX50
	MFR-SB-TX 14170	Ø14x170	14	80	Ø10x180	100	TX50
	MFR-SB-TX 14200	Ø14x200	14	80	Ø10x210	130	TX50
	MFR-SB-TX 14230	Ø14x230	14	80	Ø10x240	160	TX50
	MFR-SB-TX 14270	Ø14x270	14	80	Ø10x280	200	TX50

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MFR SB TX Inoxidable A4 / **Stainless Steel**

Cabeza tornillo avellanada + taco avellanado / **Countersunk screw + countersunk plug**

Inox A4 Stainless Steel							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR8	MFR-SB-TX 880 A4	Ø8x80	8	60	Ø6x85	30	TX30
	MFR-SB-TX 8100 A4	Ø8x100	8	60	Ø6x105	50	TX30
MFR 10	MFR-SB-TX 1080 A4	Ø10x80	10	80	Ø7x87	10	TX40
	MFR-SB-TX 10100 A4	Ø10x100	10	80	Ø7x107	30	TX40
	MFR-SB-TX 10115 A4	Ø10x115	10	80	Ø7x122	45	TX40
	MFR-SB-TX 10135 A4	Ø10x135	10	80	Ø7x142	65	TX40
	MFR-SB-TX 10160 A4	Ø10x160	10	80	Ø7x167	90	TX40


MFR SB TX Galvanizado en caliente / **Hot galvanized**

Cabeza tornillo avellanada + taco avellanado / **Countersunk screw + countersunk plug**

Galvanizado Galvanized							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR10	MFR-SB-TX 10100 HD	Ø10x100	10	80	Ø7x107	30	TX40
	MFR-SB-TX 10135 HD	Ø10x135	10	80	Ø7x142	65	TX40
	MFR-SB-TX 10160 HD	Ø10x160	10	80	Ø7x167	90	TX40


MFR SB SSKS Cincado / Zinc-Plated

Cabeza tornillo hexagonal + taco avellanado / Hex-head screw + countersunk plug

Cincado Zinc- Plated							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR 8	MFR-SB-SSKS 860	Ø8x60	8	60	Ø6x65	10	SW10/TX30
	MFR-SB-SSKS 880	Ø8x80	8	60	Ø6x85	30	SW10/TX30
	MFR-SB-SSKS 8100	Ø8x100	8	60	Ø6x105	40	SW10/TX30
	MFR-SB-SSKS 8120	Ø8x120	8	60	Ø6x125	60	SW10/TX30
MFR 10	MFR-SB-SSKS 1080	Ø10x80	10	80	Ø7x87	10	SW13/TX40
	MFR-SB-SSKS 10100	Ø10x100	10	80	Ø7x107	30	SW13/TX40
	MFR-SB-SSKS 10115	Ø10x115	10	80	Ø7x122	45	SW13/TX40
	MFR-SB-SSKS 10135	Ø10x135	10	80	Ø7x142	65	SW13/TX40
	MFR-SB-SSKS 10160	Ø10x160	10	80	Ø7x167	90	SW13/TX40
	MFR-SB-SSKS 10200	Ø10x200	10	80	Ø7x207	130	SW13/TX40
	MFR-SB-SSKS 10240	Ø10x240	10	80	Ø7x247	170	SW13/TX40
MFR 14	MFR-SB-SSKS 1480	Ø14x80	14	80	Ø10x90	10	SW17/TX50
	MFR-SB-SSKS 14110	Ø14x110	14	80	Ø10x120	40	SW17/TX50
	MFR-SB-SSKS 14140	Ø14x140	14	80	Ø10x150	70	SW17/TX50
	MFR-SB-SSKS 14170	Ø14x170	14	80	Ø10x180	100	SW17/TX50
	MFR-SB-SSKS 14200	Ø14x200	14	80	Ø10x210	130	SW17/TX50
	MFR-SB-SSKS 14230	Ø14x230	14	80	Ø10x240	160	SW17/TX50
	MFR-SB-SSKS 14270	Ø14x270	14	80	Ø10x280	200	SW17/TX50

MFR SB SSKS Inoxidable A4 / Stainless steel

Cabeza tornillo hexagonal + taco avellanado / Hex-head screw + countersunk plug

Inox A4 Stainless steel							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR 10	MFR-SB-SSKS 1080 A4	Ø10x80	10	80	Ø7x87	10	SW13/TX40
	MFR-SB-SSKS 10100 A4	Ø10x100	10	80	Ø7x107	30	SW13/TX40
	MFR-SB-SSKS 10115 A4	Ø10x115	10	80	Ø7x122	45	SW13/TX40
	MFR-SB-SSKS 10135 A4	Ø10x135	10	80	Ø7x142	65	SW13/TX40
	MFR-SB-SSKS 10160 A4	Ø10x160	10	80	Ø7x167	90	SW13/TX40

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MFR SB SSKS Galvanizado en caliente / Hot Galvanized

Cabeza tornillo hexagonal + taco avellanado / Hex-head screw + countersunk plug

Galvanizado Galvanized							
Tipo Type	Denominación Name	Dimensiones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR 10	MFR-SB-SSKS 10100 HD	ø10x100	10	80	ø7x107	30	SW13/TX40
	MFR-SB-SSKS 10135 HD	ø10x135	10	80	ø7x142	65	SW13/TX40
	MFR-SB-SSKS 10160 HD	ø10x160	10	80	ø7x167	90	SW13/TX40

MFR FB SSKS Cincado / Zinc-Plated

Cabeza tornillo hexagonal + taco con valona / Hex-head screw + plug with collar

Cincado Zinc-Plated							
Tipo Type	Denominación Name	Dimensi ones de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR8	MFR-FB-SSKS 860	ø8x60	8	60	ø6x65	10	SW10/TX30
	MFR-FB-SSKS 880	ø8x80	8	60	ø6x85	30	SW10/TX30
MFR 10	MFR-FB-SSKS 1080	ø10x80	10	80	ø7x87	10	SW13/TX40
	MFR-FB-SSKS 10100	ø10x100	10	80	ø7x107	30	SW13/TX40
MFR 14	MFR-FB-SSKS 1480	ø14x80	14	80	ø10x90	10	SW17/TX50
	MFR-FB-SSKS 14110	ø14x110	14	80	ø10x120	40	SW17/TX50
	MFR-FB-SSKS 14140	ø14x140	14	80	ø10x150	70	SW17/TX50

MFR FB SSKS Inoxidable A4 / Stainless Steel

Cabeza tornillo hexagonal + taco con valona / Hex-head screw + plug with collar

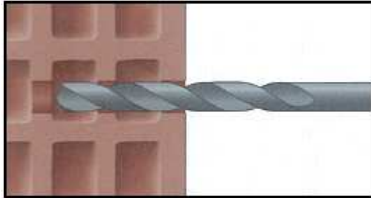
Inox A4 Stainless Steel							
Tipo Type	Denominación Name	Dimensio nes de taco Plug size	Diámetro de broca Drill diameter (mm)	Profundidad de taladro Drill depth (mm)	Dimensiones tornillo Screw sizes (mm)	Espesor a fijar Fixture thickness t (mm)	Mortaja Recess
MFR 10	MFR-FB-SSKS 1080 A4	ø10x80	10	80	ø7x87	10	SW13/TX40
	MFR-FB-SSKS 10100 A4	ø10x100	10	80	ø7x107	30	SW13/TX40

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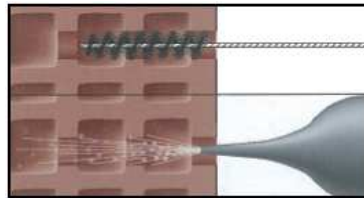
TDS-5

PROCEDIMIENTO DE INSTALACIÓN / INSTALLATION PROCEDURE

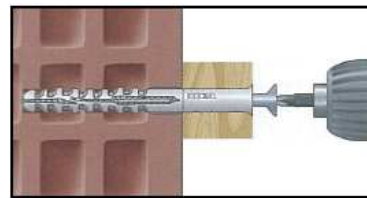
Instalación en material hueco / Installation in hollow material.



Taladrar / Drill

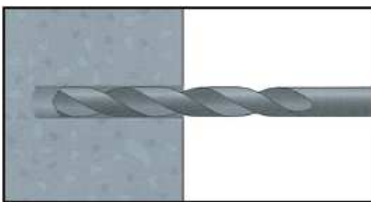


Limpiar / Clean

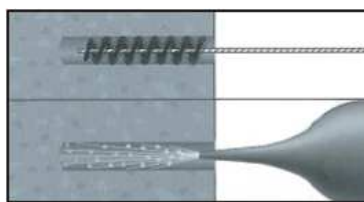


Instalar / Install

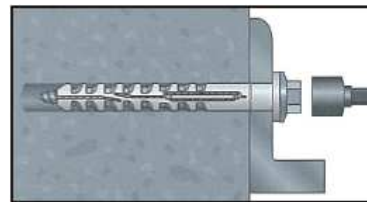
Instalación en material macizo / Installation in solid material.



Taladrar / Drill



Limpiar / Clean

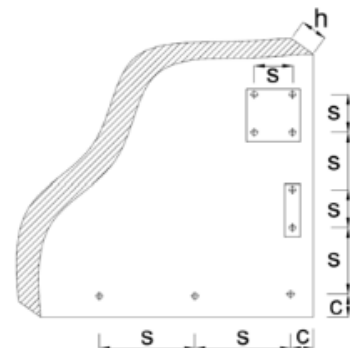


Instalar / Install

PARÁMETROS DE INSTALACIÓN EN HORMIGÓN -INSTALLATION PARAMETERS IN CONCRETE

Tipo de MFR / MFR Type		MFR 8	MFR 10	MFR 14
Espesor mínimo hormigón Minimum thickness of concrete	h_{min} (mm)	100	110	120
Distancia mínima entre anclajes* Minimum spacing distance*	s_{min} (mm)	50/70	50/70	100/140
Distancia característica al borde* Characteristic edge distance*	C_{cr} (mm)	50/70	70/100	80/112
Distancia mínima al borde* Minimum edge distance*	C_{min} (mm)	60/85	60/85	100/140

*Primer valor para hormigón C16/20 o superior, segundo valor para hormigón C12/15
First value for concrete C16/20 or higher, second value for concrete C12/15.



PARÁMETROS DE INSTALACIÓN EN LADRILLO HUECO Y MACIZO - **INSTALLATION PARAMETERS IN HOLLOW AND SOLID BRICK**

Tipo de material / <i>Type of material</i>		Espesor min. de material <i>Min. Thickness of member</i>	Dist. Mínima al borde <i>Minimum edge distance</i>	Separación entre anclajes <i>Minimum spacing</i>		
				Anclaje simple <i>Single anchor</i>	Grupo de anclajes <i>Anchor group</i>	
					Perpendicular al borde <i>Perpendicular to free edge</i>	Paralelo al borde <i>Parallel to free edge</i>
		h_{min} (mm)	C_{min} (mm)	a_{min} (mm)	S_{min1} (mm)	S_{min2} (mm)
MFR 8						
Macizo – Clay Brick	Mz-1.8 - NF	115	100	250	200	400
Macizo – Clay Brick	Mz-1.8 - NF	115	100	250	200	400
Hollow clay brick	HLz 12-1.0 – 16DF	240	100	250	200	400
Hollow sandlime brick	KSL 12-1.4 – 3DF	175	100	250	200	400
Hollow light concrete	Hbl 2-0.8 – 16DF	240	100	250	200	400
Hollow concrete block	Hbn 1.4 – 12DF	240	100	250	200	400
MFR 10						
Macizo – Clay Brick	Mz-1.8 - NF	115	100	250	200	400
Sand-lime solid brick	KS - NF	115	100	250	200	400
Hollow clay brick	HLz 12-1.0 – 2DF	115	100	250	200	400
Hollow sandlime brick	KSL 12-1.4 – 8DF	115	100	250	200	400
Hollow clay brick Brique Creuse	C 3-0.7	200	100	250	200	400
Hollow concrete block	Hbn 1.4 – 12DF	240	100	250	200	400
MFR 14						
Macizo – Clay Brick	Mz-1.8 - NF	115	100	250	200	400
Sand-lime solid brick	KS – 8DF	240	100	250	200	400
Sand-lime solid brick	KS – 2DF	115	100	250	200	400
Hollow clay brick	HLz 12-1.0 – 2DF	115	120	250	240	480
Hollow sandlime brick	KSL 12-1.4 – 8DF	240	100	250	200	400

(1) Ver geometría de ladrillos en página TDS-8
See brick's geometry in page TDS-8.

MATERIALES BASE RECOMENDADO/ SUITABLE BASE MATERIAL

Hormigón / **Concrete**

Ladrillo hueco / **Hollow brick**

Ladrillo macizo / **Solid brick**

Piedra / **Stone**

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Geometría de Ladrillo / Brick's Geometry

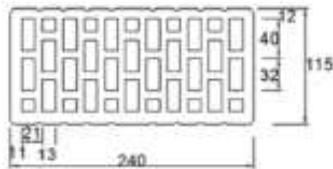


Fig. 1 HLZ 12 2DF

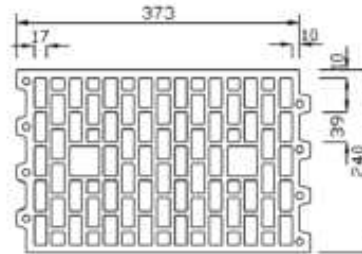


Fig. 2 HLZ 12 16DF

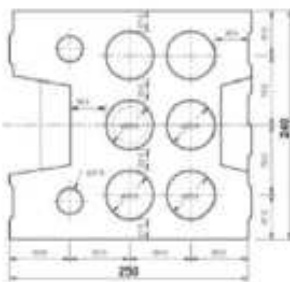


Fig. 3 KSL 12 8DF

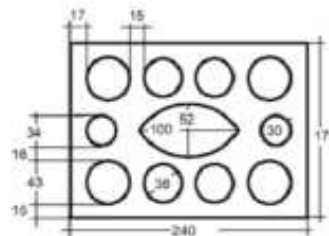


Fig. 4 KSL 12-1.4 - 3DF

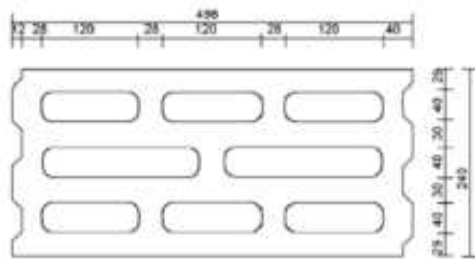


Fig. 5 HBL 2-0,8 16DF

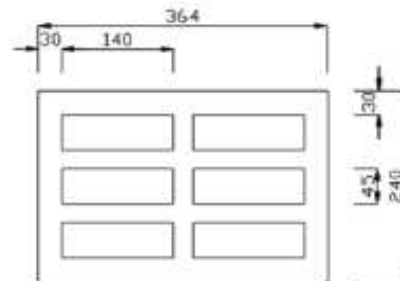


Fig. 6 HBN 1,4 16DF

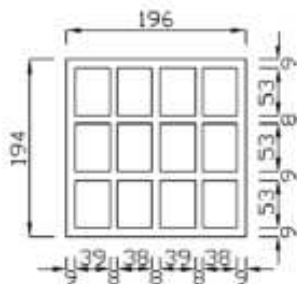


Fig. 7 Brique Creuse C

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TDS-8

CARGAS RECOMENDADAS - **RECOMMENDED LOADS**

Hormigón fisurado y no fisurado - **Cracked and Uncracked Concrete:**

Hormigón C16/20 Concrete C16/20	Tracción / Tensile (kg) N_{per}	Cortadura / Shear (kg)	
		Galvanised V_{per}	Stainless A4 V_{per}
MFR 8	100	331	311
MFR 10	159	485	453
MFR 14	179	868	815

Ladrillo sólido y hueco o perforado - **Solid and Hollow or perforated masonry:**

	Material Base Base Material	DF Mínimo Minimum DF (1)	Minimum Compressive Strength f_b [N/mm ²]	Tracción / Tensile N_{per} (kg)	Cortadura / Shear V_{per} (kg)
MFR8	Clay Brick MZ	NF	$10 \leq f_b \leq 20$	25,71	25,71
		NF	≥ 20	42,80	42,80
	Sand-lime Solid Brick KS	2DF	$10 \leq f_b \leq 20$	57,14	57,14
		2DF	≥ 20	85,71	85,71
	Hollow clay brick HLz	16DF	12	14,28	14,28
	Hollow Sand-lime Brick KSL	3DF	12	21,42	21,42
		3DF	17	34,28	34,28
Hollow light concrete Block Hbl	16DF	2	8,57	8,57	
Hollow concrete Block Hbn	12DF	25	34,28	34,28	
MFR10	Clay Brick MZ - NF	NF	$10 \leq f_b \leq 20$	57,14	57,14
		NF	≥ 20	85,71	85,71
	Sand-lime Solid Brick KS	NF	$10 \leq f_b \leq 20$	57,14	57,14
		NF	≥ 20	85,71	85,71
	Hollow clay brick HLz	2DF	12	21,42	21,42
	Hollow Sand-lime Brick KSL	8DF	12	25,71	25,71
	Hollow concrete Block Hbn	12DF	25	21,42	21,42
MFR14	Clay Brick MZ	NF	$10 \leq f_b \leq 20$	85,71	85,71
		NF	≥ 20	128,57	128,57
	Sand-lime Solid Brick KS	2DF	$10 \leq f_b \leq 20$	85,71	85,71
		2DF	≥ 20	128,57	128,57
	Sand-lime Solid Brick KS	8DF	$10 \leq f_b \leq 20$	100,00	100,00
		8DF	≥ 20	142,85	142,85
	Hollow clay brick HLz	2DF	12	21,42	21,42
Hollow Sand-lime Brick KSL	8DF	12	34,25	34,28	

(1) Ver geometría de ladrillos en página TDS-8

See brick's geometry in page TDS-8.